REMARKS

Review and reconsideration on the merits are respectfully requested.

As a preliminary matter, the Office Action did not include an initialed copy of Form PTO-1449 which accompanied the IDS filed on June 4, 2001. Applicants would appreciate the Examiner enclosing such a copy with the next communication.

Applicants have converted the product claims into method claims as shown. Claim 9 has been cancelled and its dependent claims are now dependent from process claim 18. Applicant's claim 1 is now directed to a method for producing a solid type pressure sensitive (PSA) composition, comprising adding a tackifier to a rubbery polymer and treating the resulting mixture with an isocyanate crosslinking agent to crosslink the polymer. To clarify the intention, the method now more expressly requires carrying out the crosslinking in the absence of a solvent. For support, kindly see the paragraph bridging pages 9-10 of the application, as well as the specific working examples. Independent claim 18 is directed a method of producing pressure-sensitive adhesive sheets wherein the adhesive composition is obtained by the method essentially as defined in method claim 1.

Accordingly, no new matter has been added, and entry and consideration of these claim amendments is respectfully requested.

In paragraph 1, claims 1-9 and 11-17 stand rejected under 35 U.S.C. § 102(e) (sic - presumably 102(b) is intended) as allegedly being anticipated by Ogawa (JP 11-80690).

In paragraph 4, claim 18 stands rejected under 35 U.S.C. § 103(a), as allegedly being unpatentable over Ogawa in view of Applicant's admission at page 1 of the specification.

Applicants traverse these rejections together, the focus being on independent claims 1 and 18 at this time.

As the present specification makes clear, the "solid type" pressure-sensitive adhesive (PSA) composition is a solvent-free, non-aqueous composition. Applicants have emphasized the feature, by reciting in independent claims 1 and 18, that the crosslinking is carried out in the absence of a solvent. The claimed steps of adding a tackifier to the rubbery polymer, then treating the resulting mixture with an isocyanate crosslinking agent, in the absence of a solvent, to crosslink the polymer, are not disclosed or suggested by Ogawa (or any of the other cited references, discussed). Therefore, Ogawa cannot obtain a solid type PSA composition which results from the claimed method.

Applicants have advised, based on review of the full text of the cited reference, that Ogawa does not disclose non-solvent production. In particular, the examples of Ogawa do not clearly show that a solvent was blended, but shows "applying with a comma coater, and drying at 120°C for 1 minute". This clearly suggests use of a solvent, because a solid type pressure-sensitive adhesive cannot be applied with a comma coater.

In contrast to Ogawa, Applicants' solvent-free and non-aqueous, solid type PSA composition has an enhanced cohesive power while retaining adhesive strength, and hence has better holding power and other advantages. For example, as described in the paragraph bridging pages 10-11 of the specification, Applicants' solid type PSA composition obtained by the method of the present invention, has satisfactory formability because it readily softens upon heating. By applying this composition on a substrate, e.g., a cloth, paper, or plastic film with a

calendar roll coater, extruder or the like while heating the composition, a PSA in the form of a sheet, tape, etc. can be produced which comprises the substrate having formed thereon a layer of the PSA composition. Because this process uses neither water nor an organic solvent (which of course creates environmental pollution), there is no necessity or need for drying and its concomitant energy requirements. Consequently, there is no need for conducting a step of drying with a drying oven after substrate coating. The process is friendly to the environment and greatly contributes to energy saving. Applicants respectfully submit that Ogawa does not disclose or suggest this process.

For the foregoing reasons, reconsideration and withdrawal of the outstanding rejections based on Ogawa are respectfully requested.

In paragraph 2, claims 1-17 stand rejected under 35 U.S.C. § 102 as allegedly being anticipated by Sashihara et al.

In paragraph 5, claim 18 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Sashihara, in view of Applicant's admission at page 1.

These rejections are also traversed.

Sashihara does not disclose or suggest solvent-free production. In particular, toluene is employed as a solvent in the examples of this reference. Accordingly, Applicants respectfully submit that independent claims 1 and 18 are patentable over Sashihara for at least the same reasons as those claims are patentable over Ogawa summarized above. As such, reconsideration and withdrawal of the rejections based on Sashihara are also respectfully requested.

In paragraph 3, claims 1-9 and 11-17 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Creegan et al., U.S. Patent 3,914,484.

In paragraph 6, claim 18 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Creegan in view of Applicant's admission at page 1.

Each of these rejections is also respectfully traversed. Applicants submit that independent claims 1 and 18 are patentable over Creegan. Like Ogawa and Sashihara, Creegan also does not disclose or suggest solvent-free production. As in Sashihara, toluene is used as a solvent in the examples. Accordingly, Applicants respectfully submit that the independent claims are patentable over Creegan for at least the same reasons as those claims are patentable over Ogawa and Sashihara, as set forth above.

In view of the foregoing, reconsideration and withdrawal of the rejections based on Creegan are respectfully requested.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

Mark Boland
Registration No. 32,197

SUGHRUE MION, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, D.C. 20037-3213
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

Date: September 24, 2002

APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please cancel claim 9 without prejudice or disclaimer.

Please amend claims 1-8 and 10-18 as follows:

1. (Amended) A method for producing a solid type pressure-sensitive adhesive composition [obtained by a method] comprising adding a tackifier to a rubbery polymer and treating the resulting mixture with an isocyanate crosslinking agent, in the absence of a solvent, to crosslink the polymer.

2. (Amended) The method for producing a solid type pressure-sensitive adhesive composition of claim 1, wherein said rubbery polymer is natural rubber.

3. (Amended) The method for producing a solid type pressure-sensitive adhesive composition of claim 2, wherein said natural rubber has a Mooney viscosity ML_{1+4} (100°C) of 20 to 100.

4. (Amended) The method for producing a solid type pressure-sensitive adhesive composition of claim 1, wherein said tackifier is a resin compatible with said rubbery polymer.

5. (Amended) The method for producing a solid type pressure-sensitive adhesive composition of claim 1, wherein said tackifier is used in an amount of 20 to 200 parts by weight per 100 parts of said rubber polymer.

6. (Amended) The method for producing a solid type pressure-sensitive adhesive composition of claim 1, wherein said isocyanate crosslinking agent is a polyisocyanate compound having two or more isocyanate group in the molecule.

7. (Amended) The method for producing a solid type pressure-sensitive adhesive composition of claim 1, wherein said isocyanate crosslinking agent is used in an amount of 0.1 to 20 parts by weight per 100 parts by weight of said rubbery polymer.

8. (Amended) The method for producing a solid type pressure-sensitive adhesive composition of claim 1, wherein said treatment is conducted at a temperature of about 80 to 160°C.

10. (Amended) The method for producing pressure-sensitive adhesive sheets of claim [9] 18, wherein said layer comprising the pressure-sensitive adhesive composition has a thickness of about 10 to 200 μm.

11. (Amended) The method for producing pressure-sensitive adhesive sheets of claim [9] 18, wherein said rubbery polymer is natural rubber.

12. (Amended) The method for producing pressure-sensitive adhesive sheets of claim 11, wherein said natural rubber has a Mooney viscosity ML_{1+4} (100°C) of 20 to 100.

13. (Amended) The method for producing pressure-sensitive adhesive sheets of claim [9] 18, wherein said tackifier is a resin compatible with said rubbery polymer.

14. (Amended) The method for producing pressure-sensitive adhesive sheets of claim [9] 18, wherein said tackifier is used in an amount of 20 to 200 parts by weight per 100 parts of said rubber polymer.

15. (Amended) The method for producing pressure-sensitive adhesive sheets of claim [9] 18, wherein said isocyanate crosslinking agent is a polyisocyanate compound having two or more isocyanate group in the molecule.

16. (Amended) The method for producing pressure-sensitive adhesive sheets of claim [9] 18, wherein said isocyanate crosslinking agent is used in an amount of 0.1 to 20 parts by weight per 100 parts by weight of said rubbery polymer.

17. (Amended) The method for producing pressure-sensitive adhesive sheets of claim [9] 18, wherein said treatment is conducted at a temperature of about 80 to 160°C.

18. (Amended) A method of producing pressure-sensitive adhesive sheets comprising calendering or extrusion coating a solid type pressure-sensitive adhesive composition obtained by a method comprising adding a tackifier to a rubbery polymer and treating the resulting mixture with an isocyanate crosslinking agent, in the absence of a solvent, to crosslink the polymer, on a substrate.